

HADRA (B.E.)

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SOME REFLECTIONS

+ ON +

Morning Sickness.

+ BY +

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SOME REFLECTIONS ON MORNING SICKNESS.

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THE able and very practical papers on Morning Sickness (Vomiting during Pregnancy), in your journal (February 15), by Doctors Stewart and Jones, induce me to make a few suggestions in connection with the subject. Our present knowledge of the pathology is so scant that even unproved speculations may be worthy of some attention. For, all we have at our disposal is the handy term "reflex action," though it is merely a paraphrase of a physiological principle, known to be one of the most general and most vital functions of the nervous system. In no way is the secret lifted by this word; for, as a matter of course, the muscular action which is called "vomiting" must be governed by some nervous centre, which again in turn must have been set in action by some peripheric irritation. Thus, whether the vomiting is caused by tickling the pharynx, or by irritating the mucous membrane of the stomach, or of that of the bowels; whether the abdominal ganglia, or the nerves of the womb, or those of the cervix are primarily excited—under all circumstances, a reflex action will have been set to work. We, then, must not stop here and feel satisfied; we have to go behind this term. It is astonishing what practical progress has been made in brain

and abdominal surgery since the assumption of a mere reflex action was superseded by the discovery of palpable lesions. It is hardly necessary to remind the reader of reflex epilepsies, reflex convulsions, reflex pains in female diseases, etc. ; which have been unmasked of their undefinable "functional" nature, and proved to be so "organic," as to admit of their manual repair. Indeed, it is the duty, the very business of scientific medicine, to discover one link after another in the chain of the ~~immovable~~ ^{seemingly} complex processes in health and disease.

It is from such considerations that I offer something like an explanation for a certain class of vomiting in pregnancy, not by any means pretending that it will hold good in every instance. I look at them as cases of mild sepsis, whose starting point is situated somewhere, in the cervix, womb, uterine appendages, or in the intestine. This is not at all a new idea, but, perhaps, my arguments will have the merit of novelty.

In the *Berliner Klinische Wochenschrift* (No. 25, 1889), there appeared an article by Dr. K. Alt, which, freely translated, would carry the title: "Studies into the secretion of subcutaneously injected morphine by the stomach." Dr. Alt states, in concurrence with previous reports of Doctors ~~Warmé~~ ^{Warmé} and Leineweber, that morphine, injected subcutaneously, appears in about two minutes and a half in the stomach. Prof. Hitzig (known as one of the main workers in brain-localization) had some time ago observed that a dog had vomited after eating the vomit of another dog, to which morphine had been administered hypodermically. This observation led Alt to further experiments. Dogs' and men's stomachs were washed out after hypodermic injections of morphine had been given,

and the fluids examined. Invariably the morphine was found, to even half of the amount injected. This clearly proved that the stomach acted as a secreting, or rather as an excreting organ for the morphine, which, of course, had circulated all through the system. Dr. Alt, from such facts, deduces that the vomiting, under such circumstances, is not due to an irritation of the nervous centres in the brain, or the medulla by way of the blood, but rather that it is caused by direct excitation of the nerve terminations in the stomach itself; of course, acting upon the motor apparatus by reflex action. A more direct proof of his theory he obtained in preventing the vomiting, after the morphine had been injected, by keeping the stomach free of the secretions by frequent washings.

This discovery, which seems to be accepted, at least in Germany, as fully verified, judging from a remark by Kobert in *Fortschritte der Medicin* (1890, No. 3, page 102), looked to me at first queer and absurd. Still, after a little reflection, it began to dawn upon me that there must be something wrong about our present views of the physiological functions of the alimentary canal. Have we not all too much looked at it as to a mere vessel which has no other purpose but to retain the chyme until the digestive fluids have made it absorbable, and until blood and lymph-vessels have sucked from it what they need for the system? Have we not underrated the highly developed glandular apparatus all through the alimentary canal by conceding to it nothing but the production of the digestive fluids? Is it not more likely that this complete glandular system is as well prepared as the lungs, kidneys, or skin to excrete from the body effete

or useless substances? Would it take so great a stress of imagination to think that the fæces were not only the useless remnants of the ingested food; but that they also contained a part of the excreta derived from the systemic combustion and oxidation? Are the saliva, which is swallowed, the secretions of the ventricular glands, of the pancreas, of the immense number of intestinal glands, the secretions of the enormous area of mucous membrane really nothing but digestive fluids? According to Thiry the quantity of secretion from 30 cm. of intestinal wall in the dog amounts to 4 gm. an hour. Should this great quantity of material have no other object but to prepare the chyme for absorption? Is not the daily experience with diarrhœa, and so much more with cholera, and all such diseases, where the intestine or the stomach becomes filled and refilled with fluids which are evidently drawn from the system, and which may contain the greatest variety of substances—is this not proving that the alimentary canal is a true excreting organ in health and disease? Now, there is nothing new in this; our thoughts only are, in the present period of medicine not much educated to look this way. Our fathers though, intentionally and purposely, set this apparatus to work to clean and clear out the system. Evidently they went too far, trying to drive out every disease by this channel.

Perhaps, though, the wheel will turn again. Think only of Tait's revival of the old treatment for peritonitis by free purging! But, again, it is proved that the mucous membrane of the stomach is capable of absorbing oxygen and returning carbonic acid. What better evidence is needed to claim for this organ a

similar function to that of lungs, kidneys, and skin, that is of an excreting organ?

But to return to our vomiting. How could we better explain this phenomenon in infectious diseases, especially such as usually are called septic, but by supposing that certain poisonous substances, ptomaines, leucins, toxins, or whatever we may call them, produced by and circulating in the body, become absorbed and excreted by the stomach, and that they there irritate the nervous terminations, exactly as is the case with the morphine injected hypodermically? Is there not a striking resemblance between the prevention of vomiting by washing out the stomach in Dr. Alt's experiments and the relief obtained from the same procedure in peritonitis? In both instances it will do good only until a new issue of the poisons will have accumulated in the stomach.

Now, it would be folly to contend that there is no other way vomiting could be produced; we only need think of the popular method of tickling the pharynx, or of the vomiting from pressure of meningitic deposits; also poisonous substances circulating in the blood may set the centres directly to work. Still, for the majority of cases, I see no better and no more enticing theory than the one given.

But what has that all to do with vomiting in pregnancy? Since I have read Dr. Alt's article I had occasion to see a few such cases. Those which were mild, were not examined per vaginam, and the usual remedies, especially menthol and resorcine, relieved them satisfactorily. I explained the action of such remedies as either counteracting the effect of the toxins on the nerve terminations, or by obviating their virulency chemically. But, in one case, which re-

sisted all these remedies, and which was examined per vaginam, I found what is found so often, and what is, perhaps, the most frequent condition, a very active endo-cervical catarrh, with abrasions and excessively swollen lips, which closed up the canal so that the sticky discharges could not well come away. This case was promptly relieved by the well-known expedient of widening the cervical canal, and by keeping it patulous by daily careful manipulations until the condition of the mucous membrane was improved (by applications of a solution of nitrate of silver), and until the worst symptoms had ceased, which happened about a week after the beginning of the treatment. How to make this meet my theory? I think that the toxic discharges, not finding a free drainage, were absorbed into the circulation, and that the poisonous material was secreted and excreted by and into the stomach, where it acted exactly like the morphine hypodermically injected, and that the usual internal remedies were not powerful enough to overcome the perhaps greater virulency, or the greater quantity of this substance. That as soon as drainage was established, absorption ceased, and the stomach no longer had to eliminate the virus.

Perhaps it may be asked why persistent vomiting is not found then in every pus-forming disease, or in cervicitis outside pregnancy at least? I would answer, that there is, in fact, very often present the most persistent nausea, and sometimes vomiting in the most widely differing septic conditions, produced either by retained purulent material, or by systemic infection. So it is in pyæmia, in swamp fever, and to some degree a nearly constant symptom of severe forms of endometritis, and, of course, in peritonitis.

As long as there is good drainage, or as long as the surrounding tissues are not very much disposed to absorb (like in old pus cavities), there will be little infection, and consequently little stomachical disturbance. But in pregnancy, when the cervical tissues are so extremely succulent, the discharges so much more abundant, the circulation so much more active, it seems to me not so very strange that retained purulent material should be absorbed so infinitely more readily. Besides, the conditions of pregnancy itself may have some influence upon the nature of the toxins, and also upon the excitability of the nervous centres. I can understand that even a very slight, more or less physiological secretion, when retained higher up in the contracted cervical canal, may cause the morning sickness, and that, under such circumstances, though vaginal examination will reveal nothing abnormal, dilatation of the canal nevertheless may prove a successful remedy, not by detaching the ovum from the cervix, as some erroneously explained it, and not by some unknown reflex contortion, but simply by giving an outlet to the accumulated, and, perhaps, infected secretions.

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